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**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of the Claims:**

1. (Currently Amended) A data transfer method for transferring data between two processing systems, wherein said two processing systems operate independently, said method comprising:
  - receiving a wireless signal data packet from a radio frequency physical layer processing system;
  - storing the received data packet into a first memory device, the received data packet comprising a header portion and a data portion;
  - formatting the data portion by a media access control layer processor while the data packet is stored in the first memory device; and
  - executing a single ~~program-processor~~ instruction on ~~[[a]]the~~ media access control layer processor to directly transfer a ~~header portion and a data portion~~ of the stored data packet from the first memory device to a main memory device, ~~wherein said media access control layer processor formats the data portion using a host protocol, so as to enable communication of the data portion to a remote host across a wired network.~~
2. (Previously Presented) A data transfer method according to claim 1, wherein said method further comprises:
  - transferring the data portion of the data packet stored in said main memory device to a host memory device, upstream of a host processor.
3. (Original) A data transfer method according to claim 1, wherein said first memory device is a FIFO memory device.

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4. (Previously Presented) A data transfer method according to claim 2, wherein said host memory device is a FIFO memory device.

5. (Original) A data transfer method according to claim 1, wherein method further comprises byte-aligning the data stored in said first memory device.

6. (Currently Amended) A data transfer method for transferring data between two processing systems, wherein said two processing systems operate independently, said method comprising:

receiving a wireless signal data packet from a radio frequency physical layer processing system;

storing the received data packet into a first memory device, the data packet comprising a header portion and a data portion;

processing the header portion of the packet by a media access control layer processor while the packet is stored in the first memory device;

~~transferring a header portion and a data portion of the stored data packet to a main memory device;~~ and

executing a single ~~processor program~~ instruction on ~~[[a]]~~ the media access control layer processor to ~~store-move the a~~ data portion of the data packet stored in the ~~main-first~~ memory device to a host memory device upstream of a host processor.

7. (Previously Presented) A data transfer method according to claim 6, wherein said media access control layer processing system formats the data portion stored in said host memory device using a host protocol so as to enable communication of the data portion to a remote host across a wired network.

8. (Original) A data transfer method according to claim 6, wherein said first memory device is a FIFO memory device.

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9. (Previously Presented) A data transfer method according to claim 7, wherein said host memory device is a FIFO memory device.

10. (Currently Amended) A system for transferring data between two processing systems, wherein said two processing systems operate independently, said system comprising:

means for receiving a wireless signal data packet from a radio frequency physical layer processing means;

means for storing the received data packet into a first memory means, the received data packet comprising a header portion and a data portion;

means for formatting the data portion by a media access control layer processing means while the data packet is stored in the first memory means; and

executing a single ~~processor~~~~program~~ instruction on ~~[[a]]the~~ media access control layer processing means to directly transfer ~~a header portion and a data portion~~ of the stored data packet from the first memory means to a main memory means, ~~wherein said media access control layer processing means formats the data portion using a host protocol, so as to enable communication of the data portion to a remote host across a wired network.~~

11. (Previously Presented) A system according to claim 10, wherein said system further comprises:

means for transferring the data portion of the data packet stored in said main memory means to a host memory means, upstream of a host processor.

12. (Original) A system according to claim 10, wherein said first memory means is a FIFO memory device.

13. (Previously Presented) A system according to claim 11, wherein said host memory means is a FIFO memory device.

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14. (Original) A system according to claim 10, wherein system further comprises means for byte-aligning the data stored in said first memory means.

15. (Currently Amended) A system for transferring data between two processing systems, wherein said two processing systems operate independently, said system comprising:

means for receiving a wireless signal data packet from a radio frequency physical layer processing means;

means for storing the received data packet into a first memory means, the received data packet comprising a header portion and a data portion;

means for processing the header portion of the packet by a media access control layer processor means while the packet is stored in the first memory means;

~~means for transferring a header portion and a data portion of the stored data packet to a main memory means; and~~

means for executing a single ~~processor program~~ instruction on ~~[[a]]~~ the media access control layer processor means to directly store ~~the a data portion~~ of the data packet stored in the main memory means to a host memory means upstream of a host processor.

16. (Previously Presented) A system according to claim 15, wherein said media access control layer processing means formats the data portion stored in said host memory means using a host protocol so as to enable communication of the data portion to a remote host across a wired network.

17. (Original) A system according to claim 15, wherein said first memory means is a FIFO memory device.

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18. (Previously Presented) A system according to claim 16, wherein said host memory means is a FIFO memory device.

19. (Currently Amended) A system for transferring data between two processing systems, wherein said two processing systems operate independently, said system comprising:

a first memory device for storing a wireless signal data packet received from a radio frequency physical layer processing system, the wireless signal data packet comprising a header portion and a data portion; and

a media access control layer processing device for formatting the data portion while the data packet is stored in the first memory device and executing a single ~~processor~~~~program~~ instruction to directly transfer a ~~header portion and a data portion~~ of the stored data packet from the first memory device to a main memory device, ~~wherein the media access control layer processing device formats the data portion using a host protocol, so as to enable communication of the data portion to a remote host across a wired network.~~

20. (Previously Presented) A system according to claim 19, wherein said system further comprises hardware logic for transferring at least a portion of the data stored in said main memory device to a host memory device, upstream of a host processor.

21. (Original) A system according to claim 19, wherein said first memory device is a FIFO memory.

22. (Previously Presented) A system according to claim 20, wherein said host memory device is a FIFO memory.

23. (Original) A system according to claim 19, wherein said first memory device byte-aligns the data stored therein.

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24. (Currently Amended) A system for transferring data between two processing systems, wherein said two processing systems operate independently, said system comprising:

a first memory device for storing a wireless signal data packet received from a radio frequency physical layer processing system, the data packet comprising a header portion and a data portion;

~~a main memory device for receiving a header portion and a data portion of the data stored in the first memory device; and~~

a media access control layer processor communicatively coupled to the first memory device and for configured to process the header portion of the packet while the packet is stored in the first memory device and to executing a single memory read processor instruction to directly transfer the a data portion of the data packet stored in the main first memory device to a host memory device upstream of a host processor.

25. (Previously Presented) A system according to claim 24, wherein the media access control layer formats the data portion stored in said host memory device using a host protocol so as to enable communication of the data portion to a remote host across a wired network.

26. (Original) A system according to claim 24, wherein said first memory device is a FIFO memory.

27. (Previously Presented) A system according to claim 25, wherein said host memory device is a FIFO memory.

Claims 28 – 41 (Canceled)

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42. (New) The method of claim 1, wherein the single processor instruction is repeatedly executed until the entire data packet has been transferred.